

CLAIMS

What is claimed is:

1. A bone screw anchor operable to secure an implant to a bone using a fastening device comprising:

an externally threaded intermediary portion;

a tip located at a first end of said intermediary portion;

a head having an interface capable of cooperating with a driving tool operable to facilitate implantation of said anchor within said bone, said head located at a second end of said intermediary portion opposite said tip; and

a threaded interior bore extending through said head and through at least a portion of said intermediary portion, said bore operable to cooperate with corresponding threads of the fastening device;

wherein said fastening device secures the implant to the bone.

2. The bone screw anchor of Claim 1, wherein said tip is pointed.

3. The bone screw anchor of Claim 1, wherein said tip further comprises at least one cutting flute.

4. The bone screw anchor of Claim 1, wherein said tip is self-tapping.

5. The bone screw anchor of Claim 1, further comprising at least one port providing communication between said interior bore and an exterior of said bone screw anchor.

6. The bone screw anchor of Claim 1, further comprising at least one cutting flute extending across at least a portion of a length of said intermediary portion.

7. The bone screw anchor of Claim 1, wherein at least a portion of said bore is filled with bone cement.

8. The bone screw anchor of Claim 1, wherein said head further comprises a collar.

9. The bone screw anchor of Claim 8, wherein said collar further comprises at least one cutting flute.

10. The bone screw anchor of Claim 1, wherein said bore extends completely through said anchor.

11. The bone screw anchor of Claim 1, wherein said anchor is comprised of a resorbable material.

12. The bone screw anchor of Claim 1, wherein said tip is open.
13. The bone screw anchor of Claim 1, wherein the implant is a bone plate.
14. The bone screw anchor of Claim 1, wherein said tip has a diameter that is smaller than a diameter of said intermediary portion.
15. The bone screw anchor of Claim 1, wherein said intermediary portion is completely externally threaded.
16. The bone screw anchor of Claim 1, wherein said intermediary portion is partially externally threaded.
17. The bone screw anchor of Claim 1, wherein said fastening device is a screw.
18. The bone screw anchor of Claim 1, wherein said interface of said head is at least one recess operable to mate with said driver.

19. A bone screw anchor operable to secure an implant to a bone using a fastening device comprising:

an externally threaded intermediary portion;

a tip located at a first end of said intermediary portion;

a head located at a second end of said intermediary portion, said second end positioned opposite said first end; and

a bore extending through said head, said intermediary portion, and said tip operable to direct bone cement from said bore to said bone through at least one of a port and said tip;

wherein said bore is threaded to receive the fastening device operable to secure the implant to said anchor.

20. The bone screw anchor of Claim 19, wherein said anchor is self tapping.

21. The bone screw anchor of Claim 19, further comprising at least one flute extending from said tip to said head.

22. The bone screw anchor of Claim 19, wherein said head further comprises a collar.

23. The bone screw anchor of Claim 19, wherein said collar further comprises at least one cutting flute.

24. The bone screw anchor of Claim 19, wherein said head further comprises an interface to permit cooperation between said anchor and a driving tool during implantation of said anchor within said bone.

25. The bone screw anchor of Claim 19, wherein said anchor is comprised of a resorbable material.

26. The bone screw anchor of Claim 19, wherein said bone cement is injected within said bore using a delivery apparatus comprising:

a bone cement receptacle; and

a threaded tube connected to said receptacle and operable to cooperate with said threads of said bore.

27. The bone screw anchor of Claim 26, said delivery apparatus further comprising a stem extending from said threaded tube, said stem terminating in a disk operable to plug said bore at said tip to prevent bone cement from passing through said tip.

28. The bone screw anchor of Claim 19, wherein said implant is a bone plate.

29. The bone screw anchor of Claim 19, wherein said tip has a diameter that is smaller than a diameter of said intermediary portion.

30. The bone screw anchor of Claim 19, wherein said intermediary portion is completely externally threaded.

31. The bone screw anchor of Claim 19, wherein said intermediary portion is partially threaded.

32. The bone screw anchor of Claim 19, wherein said fastening device is a screw.

33. The bone screw anchor of Claim 19, wherein said interface of said head is at least one recess operable to mate with said driver.

34. A method of securing an implant to a bone comprising:
- implanting a bone screw anchor within said bone using a driving tool operable to cooperate with a head of said anchor;
 - injecting bone cement into a threaded bore extending through said head and at least a portion of an intermediary region of said anchor using a cement delivery device, said bone cement exiting said bore through at least one opening in said bore to permit said bone cement to secure said anchor to said bone; and
 - securing said implant to said anchor using a threaded fastening device secured within said bore.
35. The method of Claim 34, further comprising protecting an internally threaded portion of said anchor during said injecting step.
36. The method of Claim 34, further comprising threadably connecting said delivery device with internal threads of said anchor to protect said threads from being contaminated with said bone cement during said injecting step.
37. The method of Claim 34, wherein said bone cement exits said bore through a tip of said anchor.
38. The method of Claim 34, wherein said bone cement exits said bore through at least one side port located on one or more sides of said anchor.

39. A method for securing an implant to a bone comprising:

providing an anchor having:

an externally threaded intermediary portion;

a tip located at a first end of the intermediary portion;

a head having an interface capable of cooperating with a driving tool operable to facilitate implantation of the anchor within the bone, the head located at a second end of the intermediary portion opposite the tip; and

a threaded interior bore extending through the head and through at least a portion of the intermediary portion, the bore operable to cooperate with corresponding threads of a fastening device;

implanting the anchor within the bone and using bone cement to secure the anchor to the bone;

placing an implant over the anchor and the bone; and

fastening the implant to the anchor using the fastening device.

40. The method of Claim 39, further comprising:

injecting bone cement through the interior bore, the bone cement exiting the bore through at least one opening in the interior bore to secure the anchor to the bone.

41. The method of Claim 39, further comprising:

injecting bone cement through the interior bore using a cement delivery device that mates with threads within the bore to protect the threads.